

in neuration are so considerable that I should hardly have thought it worth while to compare my specimen with the description of an insect described as an *Echo* when seeking to identify it. *Echo* has a very short broad oval pterostigma, and *Archineura* a very long narrow one (much longer than in *Sapho longistigma*, De Selys), and the dense reticulation below the lower basal cell is quite different in *Archineura* from either *Echo* or *Sapho*. I need not describe it, for it is shown in my figure and carefully described too; but the nervure bounding the lower basal area of the wing in *Sapho* slopes more obliquely towards the base than even in *Archineura*, while in *Echo* it is much shorter, straighter, and less conspicuous. It was the general character of the neuration which led me to compare *Archineura* with *Sapho* rather than with *Echo*. Karsch makes no mention of the remarkable neuration of the insect in his description, merely noting ordinary details; nor does he allude to the anal appendages. Consequently he gives few data beyond the long pterostigma which would suggest the identity of the two insects.

*Researches on the Structure, Organization, and Classification of the Fossil Reptilia.*—Part IX. Section 2. *On the reputed Mammals from the Karroo Formation of Cape Colony.* By H. G. SEELEY, F.R.S.

The author re-examines the remains of *Theriodesmus*, and contests the interpretation of the carpus given by Professor Bardeleben, producing specimens of South-African Reptiles in which there is a single bone beneath the radius, as in *Theriodesmus*. This character is shown in a small skeleton, at present undescribed, which the author obtained from Klipfontein, Fraserberg, which he regards as referable to a new genus. Other evidence is produced supporting the interpretation of three bones in the proximal row in the carpus, in a specimen from Lady Frere. The author then compares the fore limb of *Theriodesmus* with that of *Pareiasaurus*, which was obtained subsequently, and arrives at the conclusion that the types of limb are too closely related to be referred to different orders of animals, and therefore that *Theriodesmus* must be transferred from the Mammalia to the Therosuchia.

The skull described as *Tritylodon longævus* is examined, and its close resemblance to the skulls of new Theriodonts is pointed out. The author believes that it shows evidence of possessing both pre-frontal and post-frontal bones, which were situated as in Theriodonts, and circumscribed the orbits in the same way; so that, although the post-frontal bones appear to have met in the median line to form a crest, at the back of the frontal, there is no other character in the skull by which it can be distinguished from the skull of a Theriodont. It therefore appears to be reptilian, and thus would make known divided roots to the molar teeth in Reptilia, and a more complicated type of crown than in any Theriodont yet known.—*From the Proceedings of the Royal Society.* (Communicated by the Author.)

*Researches on the Structure, Organization, and Classification of the Fossil Reptilia.*—Part IX. Section 3. On *Diademodon*. By H. G. SEELEY, F.R.S.

The author describes fragments of jaws and teeth from Upper Karroo strata at Wonderboom and Aliwal North, collected by R. D. Kannemeyer and Alfred Brown. They may possibly belong to more than one genus; but, in absence of sufficient knowledge of the skull to establish differences, the four species are referred to a new genus, *Diademodon*. Its hinder molar teeth have undivided roots, and low crowns, which are subquadrate or transversely ovate, surrounded by a diadem of low cusps, which are chiefly developed on the external and internal borders, with erenulations or minute cusps on the anterior and posterior margins of these teeth. There is a low central cusp in the middle of the crown from which slight ridges extend chiefly in the transverse direction; but in the type species these ridges take the form of a cross. The species are distinguished by the form of the crown and the details of the cusps. The upper and lower teeth are opposed so as to be evenly worn, but the mandibular teeth are narrower.

These teeth are highly specialized, but distinct in plan from *Tritylodon*, and from all known Reptiles. They closely approximate to some of the higher Mammalia. The author refers *Diademodon* to a division of the Theriodontia in which the teeth become worn with use, which is named Gomphodontia.—*From the Proceedings of the Royal Society.* (Communicated by the Author.)

*Preliminary Diagnosis of a new Gazelle from Algeria.*

By OLDFIELD THOMAS.

The type specimen of the following species has been brought from Algeria by Sir Edmund Loder, and generously presented by him to the National Museum.

*Gazella Loderi*, sp. n.

Size small; general colour very pale sandy, the various gazelle-markings all nearly obsolete. Ears long, whitish. Hoofs narrow and very much elongated. Horns long, very slender, lyrate, widely divergent above.

Hind foot, without hoofs, (c.) 280 millim.; length of fore hoof 64, of hind one 56; basal length of skull 173; horns round curves 330, circumference at base 95.

*Hab.* Sand-dunes of Le Souf, about 100 miles south of Biskra.